THE PRACTICE OF GENERAL INTERNAL MEDICINE BY SUBSPECIALISTS

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ABSTRACT To determine the proportion of specialists in internal medicine at a university medical center practicing general internal medicine in addition to their specialty, full-time and voluntary faculty were asked to complete a questionnaire concerning their practice patterns. In addition, the directories of two of the largest managed-care groups in the area were reviewed to identify physicians who were also faculty members, to determine whether faculty in these directories self-identified as general internists. Excluding those with primary research appointments, 303 faculty in the Department of Medicine were asked to participate. Of these, 187 (62%) responded, of whom 86 (46%) were full-time and 101 (54%) voluntary faculty. Of the respondents, 183 (98%) were either board certified (152; 81%) or board eligible (31; 17%) in a subspecialty. Both general internal medicine and specialty medicine were practiced by 116 (65%), with full-time faculty being more likely to have solely subspecialty practices ($P < .001$). The majority of faculty (150; 80%) participated in managed care. A review of directories of two managed-care groups revealed that 100 (87%) of the 115 faculty with appointments within subspecialty divisions of the Department of Medicine were listed as general internists. Subspecialists in internal medicine already spend considerable time practicing general medicine and are increasingly willing to identify themselves as generalists. Unless this is recognized, the future need for generalists may be overestimated considerably.

Until recently, it has been generally accepted that we are facing a shortage of generalist or primary care physicians, while producing a great excess of specialists. As a result of this perception, goals have been set by a number of professional groups to increase the present level of graduates from US medical schools entering primary care to at least 50% by the year 2000.[1-3] However, more recently, questions have been raised as to whether there is indeed a generalist shortage.[4] Cooper has demonstrated that in 1992, in fact, 38% of all active physicians in this country

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were practicing primary care; in a number of countries, such as France and Germany, the proportion of primary care physicians is also less than 50%.[5] Further, all of the analyses concerning existing and projected physician manpower have not given credence to the observation that, with respect to internal medicine, the largest primary care field, the distinction between generalist physicians and specialist physicians is often arbitrary. Indeed, since all specialty internists have met all of the requirements for the practice of general internal medicine and are usually board certified in the field, the failure to include them in predicting health manpower needs can lead to serious distortion.

The current survey was undertaken to determine the proportion of specialists in the Department of Medicine at an urban medical school who were actually practicing general internal medicine; the school was perceived to have an extremely low proportion of primary care physicians.

METHODS

Both full-time and voluntary clinical faculty in the Department of Medicine were sent questionnaires to survey their practice patterns. Faculty with emeritus appointments or known to engage primarily in research were excluded from the survey. Responses were subsequently separated for analysis on the basis of faculty status. In addition, the primary care physician rosters of two large managed-care companies were reviewed, to identify all faculty in the Department of Medicine and to determine these physicians' listings as primary care or specialist physicians.

RESULTS

Of the 303 clinical faculty sent the questionnaire, 187 (62%) replied, 86 (46%) of whom were full-time faculty and 101 (54%) of whom were voluntary faculty. Of those responding, 152 (81%) were certified in a subspecialty board of internal medicine, and 31 (17%) were subspecialty board eligible, having completed full subspecialty fellowship training. Only 4 faculty had not taken a fellowship after completing their internal medicine training. No differences were seen in specialty certification between full-time and voluntary faculty. Of the 180 faculty who indicated a specific specialty, 69 (49%) were distributed approximately equally among the disciplines of gastroenterology, cardiology, and hematology. The practice patterns of the faculty are described in Table I, with 116 (65%) of respondents indicating that they practiced both general internal medicine and subspecialty medicine. A significant difference existed between the voluntary and full-time faculty, in that the sole practice of a subspecialty was greater among full-time faculty and thus more voluntary faculty reported practicing both general internal medicine and subspecialty medicine ($P < .001$). The majority of faculty were participants in managed care (Table II). Of all faculty, 130 (72%) participated

TABLE I Faculty Practice Patterns

	Full Time		Voluntary		Total	
	No.	%	No.	%	No.	%
General internal medicine only	14	16	10	11	24	13
Subspecialty medicine only	29	35*	11	12*	40	22
General internal medicine and subspecialty medicine	42	50*	74	78*	116	65
Total	85		95		180	

*$P < .001$

in at least one managed-care group, and 91 (50%) belonged to three or more groups. No significant differences existed between full-time and voluntary faculty.

When asked to respond how they would choose to be listed in physician directories for managed-care companies, 124 (71%) respondents indicated that they would retain their specialist listing (Table III). Although slightly more full-time faculty (63; 76%) indicated this designation (versus 58, or 67%), this was not significant. However, when actually reviewing the physician directories of two large managed-care companies in the metropolitan New York area, of the 115 physicians listed as general internists in the Department of Medicine, 100 (87%) were known to be within subspecialty divisions of the department.

DISCUSSION

Few data have been published recently concerning the practice of primary care by subspecialists in internal medicine. In 1979, Aiken and colleagues found subspecialists spend up to 60% of their time providing primary care.[6] Spiegel and coworkers found that one-third of patients received most of their care from subspecialists.[7] As observed by Cooper's group, those physicians may be equivalent to an additional 20% of the effort of primary care physicians, representing a reservoir of said physicians.[5]

Based on the present survey, although 98% of Department of Medicine faculty

TABLE II Participation in Managed Care

Number of Managed-care Groups	Full Time		Voluntary		Total	
	No.	%	No.	%	No.	%
None	20	24	31	32	51	28
1–2	19	22	20	21	39	22
3–4	34	40	28	29	62	34
5 or more	12	14	17	18	29	16
Total	85		96		181	

were either board eligible or board certified in a subspecialty, 65% were practicing both general internal medicine and their subspecialty. Despite 71% of respondents indicating their wish to be known as specialists for managed-care groups, in an actual survey of physicians listed in a directory, 86% of subspecialists in fact listed themselves as general internists. It should be noted that, since the survey was anonymous, one could not match the names of the individual physician respondents with those listed in the physician directories. Since 40% of faculty did not respond to this survey, it is more than likely that a large number of nonrespondents were also listed as general physicians in the directory. However, the proportion of general internists without subspecialty training in this department is extremely small (<10%).

These data strongly suggest that, as managed care moves into the marketplace, many physicians commonly known as subspecialists will become more eager to identify their general internal medicine practices. Unless this is taken into consideration, projections concerning needs for generalists, especially in the area of managed care, may be seriously flawed. As an example, the most recent prediction of physician supply gave the number of generalist physicians per 100,000 population as 67.[8] This ratio is, in fact, greater than the current generalist physician-to-population ratio in most health maintenance organizations, which has been found to range from 54 to 88 per 100,000, with an average of seven groups listed being 64 per 100,000.[9]

Data provided by Dunn and Miller suggest that this hypothesis may well become a reality in future years.[10] A survey of residents completing training in 1995 revealed that up to 21% of those in internal medicine subspecialties reported they had experienced difficulties in finding a practice position in their subspecialties. It is not unreasonable to assume that these individuals finally opted to participate in a general internal medicine practice. Interestingly, among residents who wished to be general internists, the survey also revealed a small but definite increase (from 3.2% to 4.7%) in reported difficulty in finding positions. Yet, despite these changes, the number of residency positions devoted to primary care continued to increase between 1995 and 1996, by 1462 for family practice, by 605 positions for internal medicine, and by 224 positions for pediatrics. On

TABLE III Designation as Generalist for Managed Care

	Full Time		Voluntary		Total	
	No.	%	No.	%	No.	%
Generalist	20	24	29	33	51	29
Specialist	63	76	58	67	124	71
Total	83		87		175	

the other hand, perhaps responding to the medical marketplace, during this time the number of internal medicine specialty residency positions decreased by 623, suggesting that the increase in residents completing their basic internal medicine training who will, in all likelihood, become generalists, will in reality increase by at least 1228 (6%).[10]

If one assumes that market forces will result in those subspecialists in internal medicine increasingly identifying themselves as generalists, an oversupply of generalists already exists. This will only become more pronounced, as in the past more than 50% of those residents completing residency training in internal medicine chose to pursue subspecialty training.[11]

The effect of the medical marketplace has already been observed with respect to students graduating from US medical schools. Before any curricular reforms had an effect, the number of applicants matching to radiology and anesthesiology programs decreased markedly in the 1995 match, despite these programs decreasing their positions by 15%. Correspondingly, applicants matching to family practice, internal medicine, and pediatrics programs increased.[12]

There has been considerable concern expressed as to whether the primary care provided by subspecialists in internal medicine is either as cost effective or as good as that provided by those practicing only primary care. However, since all specialties in internal medicine require a physician to complete general internal medicine training, and many of these individuals have continuously maintained a proportion of their practice as generalists, it is not reasonable to assume that all such individuals practice poor-quality primary care.

Although residency programs now exist in primary care internal medicine, this is a relatively recent phenomenon; even now, these programs are so few in proportion to residencies for the general internal medicine programs (11% of all internal medicine programs for the 1995 match),[12] it will be some time before graduates of these programs can make a proportionally significant contribution to the general internist physician pool. Further, many general internal medicine programs are now altering their curricula, quite appropriately, to mirror that of the primary care programs. In fact, the most recent Accreditation Council for Graduate Medical Education requirements for internal medicine programs include placing emphasis "not only on medical problems but also on health promotion, cultural, socioeconomic, ethical, occupational, environmental, and behavioral issues" with a special emphasis on the family being stressed.[13] When this is combined with the added requirement that at least 25% (1½ days per week) of the residency experience be in the ambulatory setting, including related medical specialties (orthopedics, gynecology, otolaryngology, dermatology, and psychiatry), the differences between primary care and general internal medicine programs become moot.

Comparisons of the cost effectiveness and quality of care provided by specialists versus generalists continue to be studied and debated.[14] Unfortunately, most studies have limited follow-up, involve relatively small numbers of patients, and address only one or two illnesses. For example, patients with diabetes and hypertension were found to "fare equally well whether being treated by generalists or specialists, regardless of actual practice setting,"[15] whereas those with cardiac disorders were found to fare best when in the care of a specialist.[16]

Although more data concerning quantity, cost effectiveness, and quality of generalist care provided by specialists are clearly needed, the results of the current study confirm the frequent observation that specialists in internal medicine are practicing a considerable amount of primary care. Further, they are increasingly more willing to identify themselves as primary care physicians in settings in which managed care becomes a potent market force. Unless the contributions of these physicians to the generalist pool are recognized, estimates concerning current and existing needs for generalists will be seriously flawed. It has been suggested that the problem with the physician workforce is not a shortage of primary care providers, but a specialty care surplus.[17] A closer analysis of the data, however, would suggest that in the future this oversupply will involve all physicians, including generalists.

These data suggest that a considerable proportion of subspecialists is also practicing general internal medicine. Failure to account for this when developing estimates of the need for generalists could seriously overestimate the number of generalists needed to meet health care needs.

REFERENCES

1. *Third Report: Council on Graduate Medical Education. Improving Access to Health Care Through Physician Workforce Reform: Directions for the 21st Century.* Washington, DC: US Department of Health and Human Services; 1992.
2. Association of American Medical Colleges. Policy on the Generalist Physician. *Acad Med.* 1993;68:1–6.
3. Petersdorf RG. The doctor is in. *Acad Med.* 1993;68:113–117.
4. Whitcomb ME. A cross-national comparison of generalist physician workforce data: evidence for US supply adequacy. *JAMA.* 1995;274:692–695.
5. Cooper RA. Seeking a balanced physician workforce for the 21st century. *JAMA.* 1994; 272:680–687.
6. Aiken LH, Lewis CE, Craig J, Mendenhall RC, Blendon RJ, Rogers D. The contribution of specialists to the delivery of primary case. *N Engl J Med.* 1979;300:1363–1370.
7. Spiegel JS, Rubenstein LV, Scott B, Brook RH. Who is the primary care physician? *N Engl J Med.* 1983;308:1208–1212.
8. Council on Graduate Medical Education. *Patient Care Supply and Requirements: Testing COGME Recommendations.* Washington, DC: US Department of Health and Human Services; April 18, 1995.
9. New York State Council on Graduate Medical Education. *Sixth Report.* New York: New York State Council on Graduate Medical Education; 1994.
10. Dunn MR, Miller RS. US graduate medical education 1996-1997. *JAMA.* 1997;278: 750–754.

11. Miller RS, Jonas HS, Whitcomb ME. The initial employment status of physicians completing training in 1994. *JAMA*. 1996;275:708–712.
12. National Resident Matching Program. *NRMP Data, March 1995*. Washington, DC: National Resident Matching Program; 1995.
13. *Graduate Medical Education Directory 1997–1998. Program Requirements for Residency Education in Internal Medicine*. Chicago: American Medical Association; 1997, p. 80–88.
14. Greenfield S, Nelson, EC, Zubkoff M, et al. Variations in resource utilization among medical specialties and systems of care. *JAMA*. 1992;267:1624–1630.
15. Greenfield S, Rogers W, Mangotich M, Carney MF, Tarlov AR. Outcomes of patients with hypertension and non-insulin dependent diabetes mellitus treated by different systems and specialties: results from the medical outcomes study. *JAMA*. 1995;274: 1436–1444.
16. Schreiber TL, Elkhatib A, Grines CL, O'Neill WW. Cardiologist versus internist management of patients with unstable angina: treatment patterns and outcomes. *J Am Coll Cardiol*. 1995;26:577–582.
17. Weiner JP. Forecasting the effects of health reform on US physician workforce requirement. Evidence from HMO staffing patterns. *JAMA*. 1994;272:222–230.